

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 1-3 and 5-31 are pending in this application. Claim 4 is canceled by the present response without prejudice and claim 31 is added by the present response. Claims 11-30 stand withdrawn from consideration as directed to a non-elected invention. Claims 1-8 and 10 were rejected under 35 U.S.C. §102(e) as anticipated by U.S. patent application publication 2003/0205815 A1 to Chung. Claim 9 was rejected under 35 U.S.C. §103(a) as unpatentable over Chung in view of U.S. patent 6,333,232 to Kunikiyo.

Addressing the above-noted rejections, those rejections are traversed by the present response.

Applicants initially note independent Claim 1 is amended by the present response to clarify features recited therein. Specifically, independent Claim 1 now clarifies "the insulating film configured to prevent diffusion of a conductor material in the conductive layer". That is, Claim 1 is amended by the present response to incorporate the limitations of previously pending dependent Claim 4, and accordingly Claim 4 is now canceled. That subject matter is also believed to be clear from the original specification for example at page 7, lines 4-25, and also particularly page 7, lines 11-12.

With respect to the above-noted feature now recited in amended independent Claim 1, the outstanding Office Action states, with reference to previously pending dependent Claim 4, that in Chung "the insulating film, (Figure 4H inorganic low-k dielectric middle layer & Paragraph 0093-0094), has an effect of preventing diffusion of a conductor material in the conductive layer, (Paragraph 0104 Lines 52-59)".¹

In response to the above-noted basis for the outstanding rejection, applicants respectfully submit that Chung does not disclose or suggest that the inorganic low-k dielectric

¹ Office Action of August 25, 2004, page 3, prenumbered paragraph 5.

middle layer prevents diffusion of a conductor material in the conductive layer. Paragraphs [0093] and [0094] in Chung do not provide any such teaching.

Further, at paragraph [0104], Chung discloses a "barrier metal" that serves to prevent diffusion of the conductive metal into the dielectric layers. However, that "barrier metal" noted in Chung is not the inorganic low-k dielectric middle layer cited in the Office Action to correspond to the claimed "insulating film". In Chung the barrier metal is deposited on inside walls and a floor of the vias which is arranged on the metal, and is not the inorganic low-k dielectric middle layer cited as corresponding to the claimed "insulating film".

The barrier metal in Chung also cannot correspond to the claimed "insulating film" as the claimed insulating film "covers the first interlayer insulating layer and the conductive layer". The barrier metal in Chung does not have such a structure, and particularly does not cover a first insulator insulating layer.

In such ways, the basis for the outstanding rejection to previously pending dependent Claim 4 is believed to be improper as it does not consistently rely on teachings in Chung with respect to the claimed "insulating film". The teachings of the barrier metal in Chung are not directed to the element noted in Chung as meeting the limitations of the claimed "insulating film". Further, the barrier layer in Chung cannot correspond to the claimed "insulating film". Thus, Chung does not teach or suggest the claimed structure of the "insulating film configured to prevent diffusion of a conductor material in the conductive layer", as now recited in independent claim 1, and the claims dependent therefrom.

In such ways, applicants respectfully submit amended independent Claim 1, and the claims dependent therefrom, clearly distinguish over the applied art to Chung.

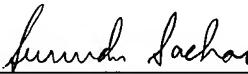
Moreover, no teachings in Kunikiyo are cited to meet the above-noted claimed features, and applicants submit Kunikiyo does not overcome the above-discussed deficiencies in Chung.

The present response also sets forth new dependent Claim 31 for examination, which is believed to even further distinguish over the applied art. Support for new dependent Claim 31 is believed to be clear from the original specification for example at page 7, lines 19-21 and Figure 2B.

In view of these foregoing comments, applicants respectfully submit the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

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